



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,217	08/20/2003	Yoshinori Yamagishi	03-542	6462
34704 7590 03/27/2007 BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER IP, SIKYIN	
			ART UNIT	PAPER NUMBER
			1742	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/644,217

Applicant(s)

YAMAGISHI ET AL.

Examiner

Sikyln Ip

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/8/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 5 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 60194035.

JP 60194035 discloses the features including the claimed Cu-Zn alloy composition and alpha-phase structure (abstract). Therefore, when prior art compounds essentially "bracketing" the claimed compounds in structural similarity are all known, one of ordinary skill in the art would clearly be motivated to make those claimed compounds in searching for new products in the expectation that compounds similar in structure will have similar properties. In re Gyurik, 596 F.2d 1012, 1018, 201

Art Unit: 1742

USPQ 552, 557 (CCPA 1979); See *In re May*, 574 F.2d 1082, 1094, 197 USPQ 601, 611 (CCPA 1978) and *In re Hoch*, 57 CCPA 1292, 1296, 428 F.2d 1341, 1344, 166 USPQ 406, 409 (1970). As stated in *In re Peterson*, 315 F.3d 1325, 1329-30, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003), that “A prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art”. Therefore, it would have been obvious to one of ordinary skill in the art to select any portion of range, including the claimed range, from the broader range disclosed in a prior art reference because the prior art reference finds that the prior art composition in the entire disclosed range has a suitable utility. Also see MPEP § 2131.03 and § 2123.

With respect to the instant recited expressions in claim 5 that it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.*, 149 USPQ 685, 688.

Response to Arguments

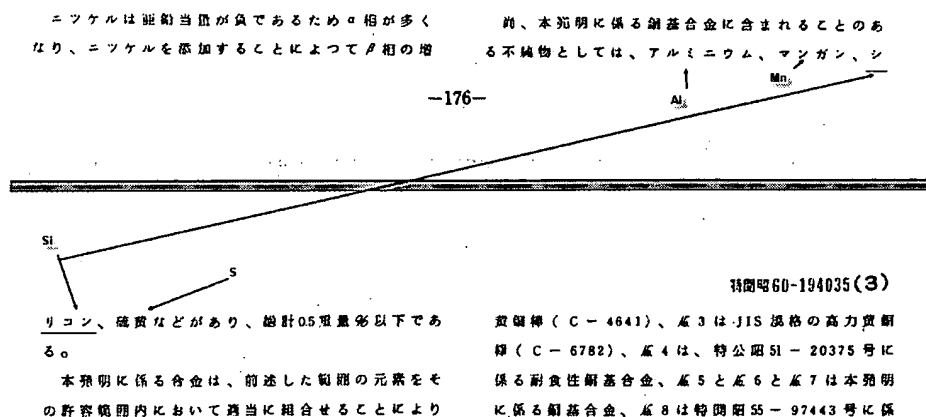
Applicant's declaration and arguments filed March 8, 2007 have been fully considered but they are not persuasive.

Art Unit: 1742

However, JP 60194035 fails to disclose or suggest that the copper alloy contains 0.01 to 0.5% by weight of silicon. That is, it is not disclosed in JP 60194035 (in Japanese) that the impurities contain Al, Mn, Si, and S and that the total amount thereof is less than 0.5% by weight, although it is disclosed in

Applicants argue that "thereof is less than 0.5% by weight, although it is disclosed in" Applicants'

attention is directed to paragraph bridging pages 2-3 of JP 60194035 pasted below:



Applicants argue that alloy of JP 60194035 contains Sb. But, there is no factual evidence that Sb is detrimental to claimed composition.

Applicants argue that Sb is harmful to the human body. But, instant alloy also contains Pb (see claim 1).

Therefore, JP 60194035 fails to disclose or suggest any copper alloys having an excellent dezincing resistance without adding

Applicants argue that "antimony thereto." But, according to

the dezincing resistance standard in page 12 of specification below:

12

- 5 the region of 10 mm x 10 mm was measured, the dezincing resistance was evaluated as "good" when the maximum dezincing depth was 100 μm or less, and the dezincing resistance was evaluated as "not bad" when the maximum dezincing depth exceeds 100 μm.

Test 4 in Tables 1 and 3 has shown no Sb is added. The dezincing resistance is less than 100 μm (0.1 mm). See pasted Tables in next page.

Art Unit: 1742

第 1 表

試験材料の化学成分

試料	化 学 成 分 (重量%)	P								
	Cu	Pb	Fe	Sn	Zn	Al	Ni	Mn	Sb	P
1	58.82	2.14	0.26	0.29	残部	—	0.10	—	—	P
2	60.07	0.08	0.04	0.75	"	—	—	—	—	P
3	57.39	0.33	0.57	0.19	"	0.72	0.45	0.76	—	P
4	63.58	1.30	0.34	1.33	"	—	0.08	—	—	P
5	63.85	1.82	0.31	0.92	"	—	0.35	—	0.02	P
6	63.55	1.99	0.23	1.10	"	—	0.40	—	0.06	P
7	64.18	2.33	0.45	0.79	"	—	0.32	—	0.02	P
8	59.52	2.04	0.21	0.30	"	—	0.05	—	—	P

第2表 機械的性質及び被削性

試料	試料 寸法 mm φ	機械的性質		ドリル	
		引張り強さ kgf/mm ²	伸び %	硬さ HR(B)	テスト値 %
1	15	47.2	33.2	68	74
2	15	44.5	37.6	64	24
3	15	66.5	18.2	81	22
4	15	46.3	33.6	67	62
5	15	46.5	34.2	67	70
6	15	46.8	33.8	68	73
7	15	45.9	32.5	67	76
8	15	46.1	35.7	65	72

一方、第3表は前記各試料の脱亜鉛腐食試験結果を示すものであり、ISO 6509に規定する脱亜鉛腐食試験方法により行つたものである。即ち、暴露試験表面が押し出し方向に対して直角となるように試料をフェノール樹脂に埋め込み、試料表面を1200番まで研磨後バフ仕上げをし、次にその試料を127 g/lの塩化銅水塩 (CuCl₂・2H₂O) の水溶液中に浸漬し、75℃で24時間保持した後、試料を取り出し、平均の脱亜鉛腐食深さを測定した。

第3表 脱亜鉛腐食試験結果

試料	脱亜鉛腐食深さ (mm)
1	0.95
2	0.31
3	0.46
4	0.06
5	0.04
6	0.02
7	0.03
8	0.35

-177-

Applicants' 132 declaration is noted. But it fails to show claimed Si content is critical because comp. Examples 4 and 5 have Si in the claimed range 0.01 to 0.5 wt.% Si but have different "Broken Time (h)" as Examples 1 and 6 respectively.

required to cause stress corrosion cracking was measured. The results are shown in the following table and the attached figure.

	Si(% by weight)	Broken Time(h)
Comp. Example 1	0.00	4.5
Comp. Example 2	0.00	3
Comp. Example 3	0.00	3.5
Comp. Example 4	0.02	8
Comp. Example 5	0.04	12
Example 1	0.02	15
Example 2	0.12	23
Example 3	0.03	16
Example 4	0.05	20
Example 5	0.11	17
Example 6	0.04	18
Example 7	0.05	16

Table 3, page 14 of specification

Table 1, page 11 of specification

same composition

same composition

Moreover, according to the instant specification the difference of Broken Time is because of heat treatment (see page 14, lines 24-28 - pasted in next page).

Art Unit: 1742

25 Comparative Examples 4 and 5, the heat treatment conditions are not appropriate, so that the proportion of the alpha phase was not sufficient. Therefore, both of the dezincing resistance and stress corrosion cracking resistance were inferior.

Conclusion

This is a RCE Application. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application.

Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case.

See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the

Art Unit: 1742

rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121 and 37 C.F.R. Part §41.37 (c)(1)(v).


Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
March 25, 2007